Listing of Claims:

This listing of claims reflects all claim amendments and replaces all prior versions, and listings, of claims in the application. Material to be inserted is in **bold and underline**, and material to be deleted is in ~~strikeout~~ or (if the deletion is of five or fewer consecutive characters or would be difficult to see) in double brackets [[ ]].

Please amend claims 1 and 7 as indicated below.

1. (Currently Amended A discharge power supply apparatus for supplying a direct current voltage to a discharge load and discharging the same, comprising:

an inverter circuit that converts direct current voltage to alternating current voltage;

a full-wave rectifier circuit that has a plurality of diodes and rectifies said alternating current voltage generated by said inverter circuit; and

~~a~~ **at least one** trigger capacitor ~~separately~~ connected in parallel to ~~at least~~ one of said diodes of said full-wave rectifier circuit to store a charged voltage,

wherein, at the start of the discharge of said discharge load, a trigger voltage that is higher than a stationary output voltage is supplied to the discharge load, said trigger voltage being generated by superimposing said charged voltage stored in said trigger capacitor on a direct current voltage obtained by rectifying said alternating current

voltage by said full-wave rectifier, and after the start of stationary discharge of said discharge load, the direct current voltage output by said full-wave rectifier circuit is supplied to said discharge load.

2. (Previously Presented) A discharge power supply apparatus according to claim 1, wherein said full-wave rectifier circuit is a full-bridge rectifier circuit including two serially connected pairs of diodes, and said trigger capacitor is connected in parallel to any one of said pairs of said diodes.

3. (Previously Presented) A discharge power supply apparatus according to claim 1, further comprising a transformer having a primary winding, to which said alternating current voltage output by said inverter circuit is supplied, and a secondary winding connected to said full-wave rectifier circuit.

4. (Previously Presented) A discharge power supply apparatus according to claim 3, wherein said transformer has two of said secondary windings, said two secondary windings are connected together serially, said full-wave rectifier circuit is a center tap rectifier circuit, said center tap rectifier circuit is connected to said two secondary windings, and said trigger capacitor is charged up to a voltage equal to the sum of voltages generated by said two secondary windings.

5. (Original) A discharge power supply apparatus according to claim 1, wherein, if the leakage current flowing through said discharge load before the start of the discharge is denoted It(A), the stationary discharge voltage is denoted E(V), and the frequency of the alternating current voltage output by said inverter circuit is denoted F(Hz), then the capacitance C(F) of said trigger capacitor is C>It/(E×F), and the capacitance C(F) is equal to or less than the capacitance at which full-wave rectification is carried out when said discharge load is in the stationary discharge state.

6. (Original) A discharge power supply apparatus according to claim 2, wherein, if the leakage current flowing through said discharge load before the start of the discharge is denoted It(A), the stationary discharge voltage is denoted E(V), and the frequency of the alternating current voltage output by said inverter circuit is denoted F(Hz), then the capacitance C(F) of said trigger capacitor is C>It/(2×E×F), and the capacitance C(F) is equal to or less than the capacitance at which full-wave rectification is carried out when said discharge load is in the stationary discharge state.

7. (Currently Amended) A discharge power supply apparatus according to claim 1, wherein additional capacitors are respectively ~~and separately~~ connected in parallel to all of said diodes other than that connected by said trigger capacitor in said rectifier circuit, one of said additional capacitors is an other trigger capacitor, and said

trigger capacitor and said other trigger capacitor have an electrostatic capacitance substantially larger than those of the others of said additional capacitors.

8. (Previously Presented) A discharge power supply apparatus according to claim 1, wherein said plurality of diodes of said rectifier circuit comprise a plurality of diodes connected serially, additional capacitors are respectively and separately connected in parallel to said plurality of serially connected diodes other than that connected by said trigger capacitor, at least one of said additional capacitors is an other trigger capacitor, and said trigger capacitor and said other trigger capacitor have a capacitance substantially larger than those of the others of said additional capacitors.

9. (Original) A discharge power supply apparatus according to claim 7, wherein, if the leakage current flowing through said discharge load before the start of the discharge is denoted It(A), the stationary discharge voltage is denoted E(V), and the frequency of the alternating current voltage output by said inverter circuit is denoted F(Hz), then the capacitance of said trigger capacitor is greater than the capacitance of the other capacitors by It/(E×F) or more, and is equal to or less than the capacity that carries out a full-wave rectification when said discharge load is in the stationary discharge state.

10. (Original) A discharge power supply apparatus according to claim 3, wherein said inverter circuit is a multi-phase inverter, said transformer is a multi-phase

transformer having a plurality of primary windings and secondary windings, and said rectifier circuit is a multi-phase rectifier circuit having a plurality of diode arms.

11. (Previously Presented) A discharge power supply apparatus for supplying a direct current voltage to a discharge load and discharging the same, comprising:

an inverter circuit that converts direct current voltage to alternating current voltage;

a full-wave rectifier circuit that rectifies an alternating current voltage generated by said inverter circuit;

a trigger capacitor and a trigger diode is connected in series between an input side and an output side of said full-wave rectifier circuit; and

a charging diode connected between the input side of said full-wave rectifier circuit and the junction of said trigger capacitor and said trigger diode,

wherein, at the start of discharge of said discharge load, the voltage of said trigger capacitor is superimposed on the voltage of said secondary winding to supply to the discharge load a trigger voltage that is higher than a stationary output voltage of said discharge power supply apparatus, and after the start of a stationary discharge of said discharge load, a direct current power output from said full-wave rectifier circuit is supplied to said discharge load.

12. (Previously Presented) A discharge power supply apparatus according to claim 11, wherein a smoothing capacitor or a smoothing capacitor and a bypass diode are provided at the output of said full-wave rectifier circuit, and a cathode of said trigger diode and a cathode of said bypass diode are connected.

13. (Original) A discharge power supply apparatus according to claim 11, further comprising a transformer having a primary winding, to which the alternating current voltage output by said inverter circuit is applied, and a secondary winding.

14. (Original) A discharge power supply apparatus according to claim 13, wherein said transformer has two connected serially secondary windings, said full-wave rectifier circuit is a center tap rectifier circuit comprising a pair of diodes connected serially to each of the terminals of said two secondary windings, and said charging diode is connected between the junction of said two connected serially secondary windings and the junction of said trigger capacitor and said trigger diode.

15. (Original) A discharge power supply apparatus according to claim 13, wherein said transformer has two connected serially secondary windings, said full-wave rectifier circuit is a center tap rectifier circuit comprising a pair of diodes connected serially to each of the terminals of said two secondary windings, and said charging diode

is connected between the other terminal of said two connected serially secondary windings and the junction between said trigger capacitor and said trigger diode.

16. (Original) A discharge power supply apparatus according to claim 11, wherein the capacitance C(F) of said capacitors has values that satisfy the formula:

$C>It/(F\times E)$

where It(A) denotes the discharge current before the start of the discharge, E(V) denotes the discharge voltage of the stationary discharge state, and F(Hz) denotes the converted frequency of the inverter circuit, and the capacitance C(F) is equal to or less than the capacity for carrying out full-wave rectification when said discharge load is in the stationary discharge state.

17. (Previously Presented) A discharge power supply apparatus according to claim 1, further comprising a capacitor connected in parallel to the output of said full-wave rectifier circuit.